Ans: Sept 4th
Rec Sept 18

Boston Sept 1. 1866

Dear Sir.

I have just received with great pleasure your letter of the 28th ult: because it will be in my power to send you the Specimens of Insects you wish to procure.

It is only a few years ago that by the discovery of the Bibum Insects my attention was drawn to the genus, and since then in all our Woods and in the Streams leading into or out of them I print it common. When I first discovered the Plant that M. Durieu has named I. Americata I gave Dr Gray some five Specimens the largest of which he said he should divide and send you half of it.

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If therefore you received from Dolgay
some three or four years ago, half
of a plant of Isoetes, with long straight
leaves, it is the I. Muricata. Durieu.
I can lend you other good specimens
and will try to procure some living
ones. A short time ago the water in
the brook was so high owing to
heavy rains that I could not find
any plants. I can also send you
specimens from the pond (Horn Pond)
into which the brook discharges itself.
I have also specimens from Mystic
Pond, gathered at the extreme
end, just at the beginning of the
river, which may be the same
as Tuckermans plants, and I will

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collect both specimens for you. I
have some other specimens collected
in other places in the neighbourhood
Prof Braun has through our friend
Dr Gray requested me to send him
some living plants of the S. Muricata,
and I hope to be able to send them
shortly. Mr Darwin has especially
a strong desire to get the S. velutina
from Lake Pontchartrain, and that
from Catskill which he has named
S. macrosepala. Of the former I shall
try and get living plants. The latter
it would be a piece of good luck to
meet with, as I believe neither the
name of its discoverer or the place
of its growth is known.
I have never noticed any of our

I sorties denuded of the blackened
tufts or remains of the old bulbs.
probably because I have not examined
them early enough in the season.

Through Dr Gray's kindness I have
been able to read the first part of your
monograph on Juncus, and am
glad to express my thanks of the
obligation all botanists are under
you for introducing order into so
confused a genus.

If at any time I can be of any
service to you, I assure that you
will give me pleasure by calling
upon me freely

I am Dear Respectfully
Yours

Dr Engelmann
St Louis

William Boott

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Rec'd Sept 7
ans Sept 8
Dr George Engelmann

Boston 3d Sept 1866

Dear Sir

I have left this morning with Dr Gray a large number of specimens & Isoetes, part of which he has promised me to send to Prof Braun and part to you. They were collected yesterday in Mystic Pond and in the brook at Woburn.

The Mystic Pond plant is from the very end at the origin of the river. I hope it will prove to be the plant Prof Braun is in quest of. Since Tuckerman gathered Isoetes, the pond has been much altered. It is so contracted in the middle as really to form two ponds. The tide has always overflowed

effected the lower pond, and the darker
water is brackish and foetid. The United
States government have deepened the
inner bed, so that the tide rises higher
and falls lower than formerly. The
upper pond was always fresh and never
effected by the tide. It has been dammed
up and the water diverted to supply
the city of Charlestown, and this reduces
the level of the lower pond. These effects
came into operation last year. I did
not yesterday find the plant so
abundant as it was last year
The Bottom plant grows in a broad
town tinche patch, wide in a depth of water
from 6 inches to 2 feet, on naked
gravel, and is a solitary plant.
The Mystic Pond species is rather gregarious
Braun?

and grows among Sertum & Contortum in
a bog Conferted & Electharis Acicularis
Lobelia Dortmanna & Eriocaulon Septangulare
and in about a foot of water.

If you should identify these plants,
I should be very glad to learn the
result of your examination of them

I remain Dear Sir
Yours Respectfully Yours
William Boott

immersed?

Mistake
Gray says
I. riparia (tall) from Mystic R.
I. Aboard? (small) from Mystic River

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Rec'd Sept 22
ans Sept 24

Dr George Engelmann

Dear Sir

Boston 19 Sept 1866

I have to day sent
you by mail a small box
It contains some specimens
of Isoetes gathered yesterday
at a small shallow pond
that has no outlet, in
Woburn. owing to the
shrinking of the pond,
many of the specimens
were wholly emersed.
I have not examined it

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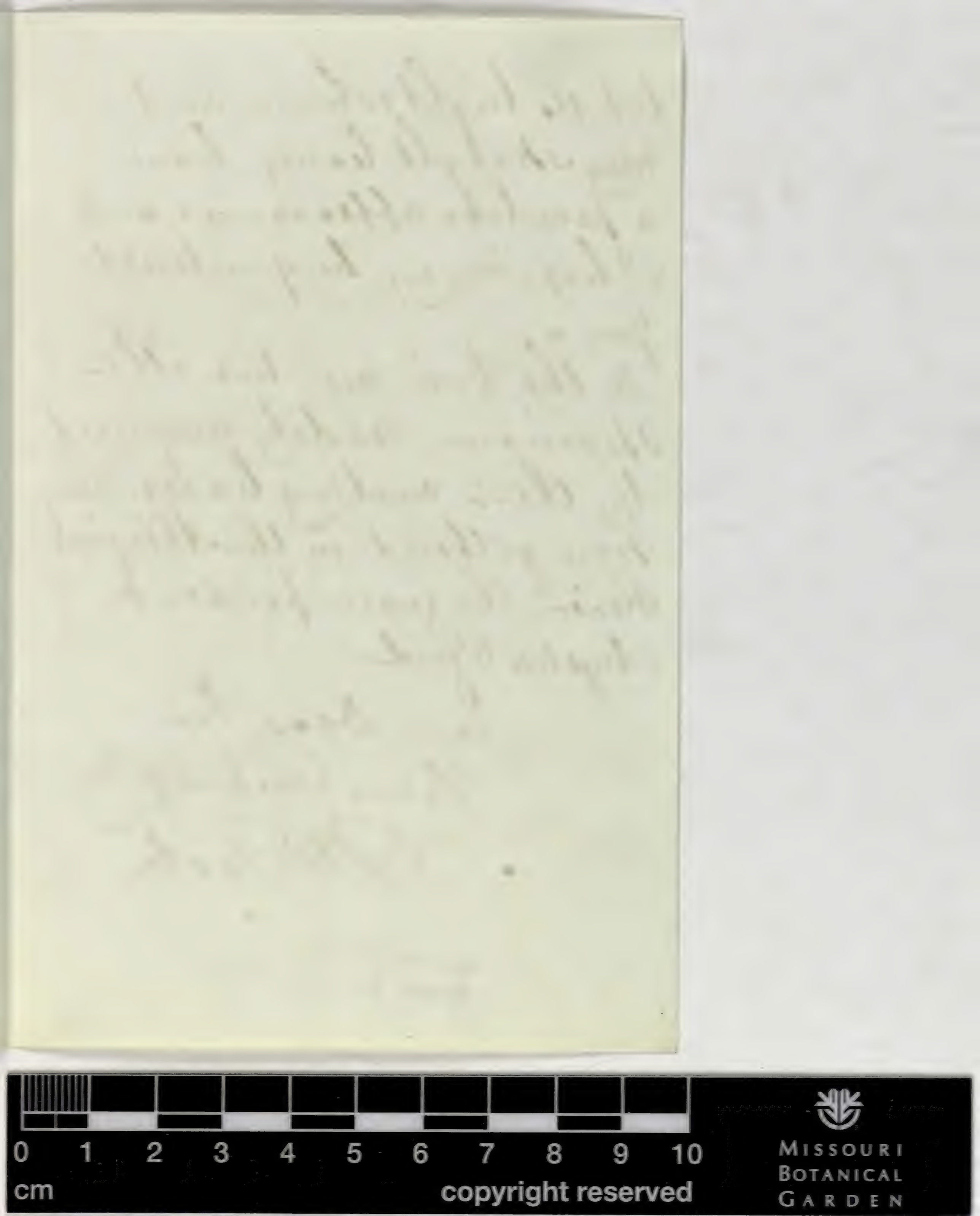

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but its bright colour, and
very straight beam have
a peculiar appearance, and
I hope it may be of interest
you -
In the box are two other
Specimens, readily recognized
by their curling leaves. They
were gathered in the Abbajona
River, the main feeder of
Mystic Pond

Yours Dear Sir
Yours Respectfully
M Root

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Rec'd Sept 26
Ans Oct 3

Dr George Engelmann

Shaw's Garden

My dear Sir

I have just received your favour of the 18th and am very glad to have to be satisfactory an endorsement of the Graham book Leaves as a new species. I am trying to be distributed by between Prof Gray and you the Doctor formed the Graham book easily recognized by the bright green long and straight leaves and the lovely from the lower end of Mystic Pond, a smaller plant than the other in the deeper and broader leaves. The principal character to which I refer is the Ilysanthes grows in shallower and quieter parts of ponds both in pine & forest 4 inches greater. Its beauty is marked (1) on the colored plate. It is always submerged The second plant from Mystic Pond with leaves I have not yet been able to detect any Ilysanthes in this river. Its habit is marked (2) in the plate. It is also submerged but last year when the leaves were developed by the water of the upper pond; and the violet dependent. as I wrote to you the plant grew common out of water. This year only the immersed plants survive. I have good specimens of last years Collecting which I will send you in a day or two.

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In Isoetes probably the same. Fringes the whole margin of Mystic pond, or here the ground is soft, is gregarious and appears very small. Will if possible get the crimson from different parts of the pond. In writing of Mystic Pond I mean only the lower pond. The upper pond has been so dammed up, and the water deepened as to drown all plants growing in shallow water. The two specimens of Isoetes I sent you the other day with curled leaves are from station (3) on the plan - the others with bright green very straight leaves from the round shallow pond with no outlet (4).

Late last autumn I collected some remarkably fine specimens of an Isoetes, from a mill pond, that or dammed up. Steam was drawn down at a spot marked (5) on the plan. But that time having heard of Mr. Gay's death, I sent a large number of living plants down for Mr. Durieu, and later, when I heard of Mr Gays loss, I advised M. Durieu of my despatch, but he did not succeed in recovering the plants. I can send you dried specimens. They grew entirely emerged, in mud so soft that the pole sunks from 10 to 12 feet in it. This year the water has not been let off and the heavy rains have so increased the depth of water that I have not been able to find the plants. There is lower down the same stream an immersed Isoetes at (6) which I can get.

The Robinsonville plant - I muricata is a Solitary plant generally found in clean ground.

When I spoke of Isoetes being common in this vicinity. I spoke generically. If you will look at

the inclosed rough plan, you will see that I have marked the places where I have found it. Besides it is common in Horn Pond. I have specimens from that pond which I mark (7)(8) and will send you. In the chain of ponds between Horn & Big Pine Ponds I have noticed it growing. It is found in Bush Pond, and I think I have found it in Spot Pond. These are the only places that I have. I have followed since my attention was drawn to the genus. Another season I will take a wider range & Dunica has inspired me with a strong desire to have the Catskill species, of which there is only one specimen in the Herbarium of the Phila. Soc. So any thing known of its locality. Dr Gray told me that Clinton had furnished a book for it. Can it be the Plant you mention as receiving from him?

As I am writing at my office, I cannot at this moment give you the date of my first collecting I. Muricata but will in a future letter. and from the impression I shall send you you will get the length of leaves - From memory I should put them at extreme length at a foot

Some years ago I found at Hannibal Asters Novae-Angliae growing abundantly on the River Bank. I first collected I. Novi-Belgii, may I ask you the favor to send me some other fruits.

I trust the water bore that I sent you last week has reached you in good condition with the Isoetes from (31)(41) of the plan, and in a day or two I will send you all that is my herbarium will furnish.

Yours Truly
Geo W Peckham

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Sketch of Routes Corrected
near Boston

by Wm Boott Sept 1866

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Rec'd Sept 29
Ans. Octo 3

Boston 26 Sept 1866

Dear Sir

I send you to day by mail the dried Specimens of Sweetes. I cannot find any from Storr Pond, but will try and collect some this season.

The numbers refer to the numbers in the tracing of the county around Woburn which I inclosed in my last letter

No 1. the Woburn Brook

(1). 1 Specimen Collected Aug 5. 1860
(2) 1 " " Oct 7. 1860
(3) 1 " " Sept 18. 1862
(4) 1 " " Nov 16. 1862
(5) 9 " " Sept 2. 1866

No 2. Lower end of Mystic Pond

(1) 6 Specimens collected July 30. 1862
(2) 4 " " Sept 2. 1866

No (5). Mill Pond Stream West Cambridge

(1). 4. Spec. growing out of water collected Oct 26. 1865
(2) 2 " " Nov 5. 1865

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L. Brainii ≒ Concord Brook

Nov. 4 Specimens collected Aug 30. 1866

I first collected the Potamogeton Brook No 1

Isoetes Immicata Aug 5. 1860.

The lower Mystic Pond having been

lowered as I mentioned before, the

Specimens I collected there in July 1865

grew much stronger & better, & now all

such have perished, and in the water

the plants are dead, not having yet established

itself at the proper depth.

The No 5. Isoetes came from a mile

pond formed by damming a large brook,

the water of which was drawn off

so that the plants collected in Oct. Nov

1865, were nearly all growing luxuriantly

out of water. The water is this season

so deep over this locality that I have not

been able to approach the place

The Concord Brook - No 9 - is a

small stream that one can jump across,

and the Isoetes there grow in a firm

bottom in about 6 to 8 ft water.

In my last letter I rectified Gray's

misapprehension of the localities of the

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two plants Isoetes. No 1. is from a brook
at Woburn & No 2. from Mystic Pond
not River — I have not yet found any
Isoetes in the river. All the Woburn specimen
of this year, grew within 100 yards of each
other. Those of former years grew rather
lower down the brook
With regard to the reddish colour of No 2.
I think it is found only when the plant is
out of water. The leaves are always recurved
Muricata is always bright green and
always submerged. The bright green colour
of No 5 is more marked, as well as
the breadth of the leaves, and I think
the broad ring of the base or stone Cask.
I saw yesterday at Dr Grays an
Isoetes from Catskill collected there
by Judge Clinton. I hope it may prove
to be Macrospora, but under a low
former the spores did not seem done
to belong to the Phalaplant mentioned
by Durieu, and not large. In the hopes
that my plants will reach you safely
and be of some service
I am Dear Sir
Yours respectfully
Dr Engelmann
W. W. Booth

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Rec'd Oct 11
ans Oct 22
Sol Lewis Engelmann

Boston Oct 8 1866

Dear Sir

I have just received your favour of the 3 and reply to it at once - and my hastily as I am just starting on a journey that will keep me away from home ten days or a fortnight.

On my return I will if possible endeavour to collect some good Specimens of Isoetes Engelmanni under water If the cold weather does not prevent me I have no doubt that I can get some. I am very glad that you have directed

J. Austin Carr 6 Somerset St Boston

26 Nov. Exhibition Stockholm

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these fine species among my
plants.
I intended to present you with
the plants I have sent, and I
regret that they were not
more carefully prepared and
better worth your acceptance.
I have not been 5 minutes
out of water, except at the small
pond just in Woburn, where
the evaporation has uncovered it.
The two specimens of that species
from the little river Abbajona
could never I think have been out
of water, or even in less than a foot
of water.
The Mystic Pond I. Boarnii must

before the artificial lowering of the
Pond been always immersed. The
first season after the lowering of
the level of the pond, it grew
flourishingly a little above and
below the water line. Now all those
plants have perished, and the plant
is quite scarce in the water. What
is now the suitable depth must have
been too great for the Plant before
the pond was lowered. The Specimens
I gathered this year were all
under water, and they are red at
the base of the leaves. I am wrong in
stating that the emerged plants only
were coloured. There is sun in the
land draining into the pond. Can
this cause the colour? The water

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of the lower Mystic Pond, at a depth of about 2 feet is somewhat saline, and foetid.

I will try and get other specimens of Diatoms from other parts of the Pond, and send them to you. I tried to collect some at Jerk Pond yesterday, but the wind ruffling the surface, and the decaying vegetable matter about the shore, baffled me & that I only got three very small pen loaned specimens.

I am much obliged by your kind offer about the Anomalies. At a County Place of a relation I have sometimes cultivated some of our native plants

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I am always Dear Sir
Yours Respectfully Yours
W Boott

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Rec - Oct 26
Ans Oct 29
Dr George Engelmann

Boston 23 Oct 1866

Dear Sir

I returned home a few days ago, and as soon as I could find leisure went to work up Scoliopus in Mystic River and Mystic Pond. The results of my collections made on the 21st I send you herewith by mail in a paper box. It contains two parcels the upper and smaller one has the Pond specimens and the lower and larger one the River specimens. The River specimens were gathered near the point where it issues from the Pond and from there about 1/16 mile to Woods dam, below which I could not take my boat. The bed of the river has been deepened and much altered by the Harbor Commissioners, and there are few plants growing in it. The specimens from the Pond were taken from various parts of it, but principally however from the North Eastern end and the West side. The Eastshore has been filled in in some places, dry, in others and nearly other changed by the Conduit that takes the water from the other Pond to Charlestown. The two Mystic Ponds have been much altered lately by stopping up the water of the other principally

Dr Dec. 1865. Asst. Dr Dept. Bureau Refugees

the City of Charlestown and secondly by deepening the inner bed for the purpose of making the pond a tidal reservoir to scour out Boston Harbour formerly the tide rose only a few inches in the pond. Now I think it may rise 2 feet more At 18 feet below the surface the water is salt at 20 feet salt & sulphurous, the surface water being fresh. Forsford thinks the salt is caused by the flow into the pond of high tides, and the sulphurous matter by the tide water taking it from the marshes about the river & carrying it into the pond. The pond is much deeper than the river, and the salt & sulphur having no outlet must accumulate in it. There is iron also on the bottom about the pond, and a good iron Spring near it

Just now Insects in the Mystic Pond is very abundant, - young pondweed plants growing gregariously in a few inches of water. and the larger plants separate in a foot or more: As far as I am aware, the Bottom & Brook Insects are not mixed with any other - and the Bulb Root plants of Cambridge is always uniform in character. What the Mystic Pond plants I am not to contradict

In Nov 1862. Asa L. Gray Some living plants

of the Roburn Creek Forests, from which Mr Dunn established I. maculata. for Jamaica I sent him some dried specimens from Echo Lake and in Apr 1865 I sent him not having heard of his death, some fine living plants of the Cambridge Mill Pond ~~Island~~ Forests. which you determine the I. Engelmanni. Afterwards on learning the sad news of his sons death, I advised Mr. Dunn of the package, and he made some effort to get it, but without success. This year I sent Mr Dunn a few living plants from near Weir Landing at Lake Minnitonka Instead Mr. Durant mistake about my having collected I. Engelmanni with Minnesota and pointed out to him. Gray has corrected the package and collected at Wilmington by Canby. I however Mr. Dunn sent a Specimen of Engelmanni collected by me. it must have come from the Roburn Creek or from Echo Lake - I sent you some Specimens from Echo L. and will send you some. I did not do so lately because I supposed the Echo L. plants like wells determined as I. Lacustris - I will try and get for Dr Gray the other half of the plant, & so reach the Cambridge one half, and send it to you

You note first I think that the Upstart Pond

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and some plants are losing their colour and becoming brownish. The young plants grow during Stony ground the older ones when the ground is soft. The old bulb remains on most of the plants and sometimes throughout readily and at other times adheres firmly.

I doubt about being able to send you any plants of I. Engelmanni from Arkansas. There is no boat now but I could ride on the mail boat to Cumberland I can get some plants down the Sandy stream. and will get some Sarracenia from Fort Pickering

Do not think of giving me trouble I am very glad to be able to furnish you with anything I can procure and your letters especially will give an increased value to my collection — I do not remember anything about Juncus articulatus, but will look and see if I have any thing peculiar. I have not had time yet to do it. The only thing I remember in Juncus is a J. Fluitans with a Contact globular kind of fruit. I never found it bottarnice.

I congratulate you heartily in having got rid of the cholera! We have had here scarcely any deaths but we, and that of Dr Goodman an excellent naturalist and an admirable man — a great loss

Yours always dear Sir
Yours very truly
A Gray

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Rec'd Nov 3
Ans same Day

Boston 30th Oct 1866

Dear Sir

I have just mailed to you a box containing two parcels of Isoetes, the lower parcel filled with living specimens of I. Engelmanni from the West Cambridge brook, below the Mill Pond - No 6 on the plan I sent you - the upper parcel contains living specimens from Stow Pond from the lower end at my Station No 8. I could not approach the part of the W Cambridge Mill Pond where the specimens I some time ago sent you of I Engelmanni grew. These I send you now were all immersed, and the leaves were decussed in the same manner as when the plant is entirely water -

I was not very successful at Stow Pond. I could not get a boat. The wind was very high and by ruffling the surface of the water made it difficult to see the bottom, which is covered thickly with leaves that are soaked through and heavier than water, while the surface is as thickly strewn with freshly fallen leaves. The few plants I could get were got by wading - I went to the other station about the middle of the West side of the Pond, against

which the winds & waves had driven such a mass of floating matter that I could find nothing. Since I sent you the Mystic Pond Specimens, I took advantage of low tide and walked down the bank and over the bed of the river for some distance, and up the bed of the brook which flows out of Fresh Pond into it - all of this below the dam where I was stopped in my first excursion. The rise and fall of the tide is from four feet at the upper end to perhaps double that amount at the lower. With careful search I could not find a single Isoetes, so that I conclude that Tuckerman's plant from Mystic R. must have grown on the very ground from which my specimens were collected.

With regard to your questions about colour in winter - I have not seen any Isoetes later than November. At that time I Engelmanni is of a bright green and in vigorous growth - I. Braunii in Mystic Pond becomes more of an olive colour at this season - and so I think does the Woburn Brook

I. Articulata - I. Brannii seems to generally
have lost the outer leaves especially in the
shallow places - in deeper water the plants have
often a full complement
At the lower end of Mystic Pond, until within a
few years there was not by the measurement of
the U.S Engineers any perceptible tide in the Pond now
there is a rise perhaps of near two feet. The water
formerly from the surface fifteen feet in depth was
not brackish.
I. Brannii is in its normal condition under
water, as far as my observation goes - So is I.
Muricata except at the small round Pond in
Woburn. There every year the outer circle of plants
must emerge under evaporation.
Your question about Juncus has cleared up
a doubt. The plant you speak of at first
referred to I. Articulatus. But afterwards on
finding it with only 3 stamens; I concluded
it the I. debilis - I know two stations for
it, one in the west border of Spot Pond
which you may notice in the margin of
the sketch I sent you. The other station is

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a gravelly bank in Mystic R. immediately
below Woods dam, where the tide rises
about 3 or 4 feet. I cannot say what its
condition was formerly, but it must have
been at or near the limit that brackish water
would reach, and the tide could not have risen
more than from 6 in to 12 in. The plant grows
in a small forest of Scirpus and is generally
prostrated by the tide. I have very few
specimens - having always in mind to
make a good collection, but never having been
at the place at the right time. Next season
I can no doubt collect for you as many as
you desire. A year or two ago I could not find
it at Spot Pond, the place having been drained
and cultivated. It then made a large crop
that in Mystic R. where it was contracted
I have never doubted to be a native
I have asked Gray to send you his half of the
Communication from Asa —
The season is now so late, that I am no longer
in the country a part of my time, and I fear that
I shall not be able to collect any more Sedges - But
if I have an opportunity I will not fail to do so,
and next year I will take a wider range
Do George Engelmann Very truly Yours W. H. Pook

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Rec'd Nov 7
Ans. Nov 22

Dr. Geo. Engelmann

Boston 3. Nov. 1866

Dear Sir

I have just received your letter of the 29th ult. and am very glad indeed to learn that you have probably determined our young plants to be the Isoetes that Mr. Braun thought to be a new Species.

Your observations upon the difference between it and I. Braunii aid me in further specifying the two plants.

If I am right I. Braunii is a larger, more leafy plant than the other, growing in deeper water, and more fast maturity. It is besides a more solitary plant.

The new plant grows often in masses, is (more) few and slender leaved. It must be very much later than I. Braunii. I referred to this when in a former letter ~~so~~ as I spoke of it putting forth a number of young plants, and growing in a few inches of water. I think that I can easily

distinguish the two species. from the T. Tuckermanni growing do. as I form a thin grassy turf in appearance. I think too that you will find it again in specimens from Iron Pond, that I sent you last week, and I am not mistaken in my recollections of the appearance of Isoetes in other ponds, I have noticed stones in them. Supposing the plant to be too young I have rose stones. - but then it must be looked for late in the season.

In speaking of the smaller plants growing in a few inches of water, and the larger in from 1 to 2 feet, I should have said that it was then low tide. But bear in mind that two or three years ago there was only a rise of a few inches in the tide in the Pond, and that was rather caused by the river tide backing up the water in the pond, and that probably no brackish water flowed into the pond except in exceptionally high tides. There was then very little tide even at Woods mill the limit of my collection of Isoetes in the river

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Below Woods mill in old times the river rapidly became a salt water tidal river with broken banks clothed with the Spartina Glabra & Carex Maritima. The great change produced in the regime of the water by excavating the river bed has taken place in the pond and down the river as far as Woods mill, admitting a rise of tide of about two feet and perhaps more. The Harbor Commissioners recommend a much greater deepening of the upper part of the river bed, so as to make the pond a tidal reservoir to scour the harbor. Before that day however I will endeavor to rescue the native species from extinction

Very Truly Yours

N. F. Cook

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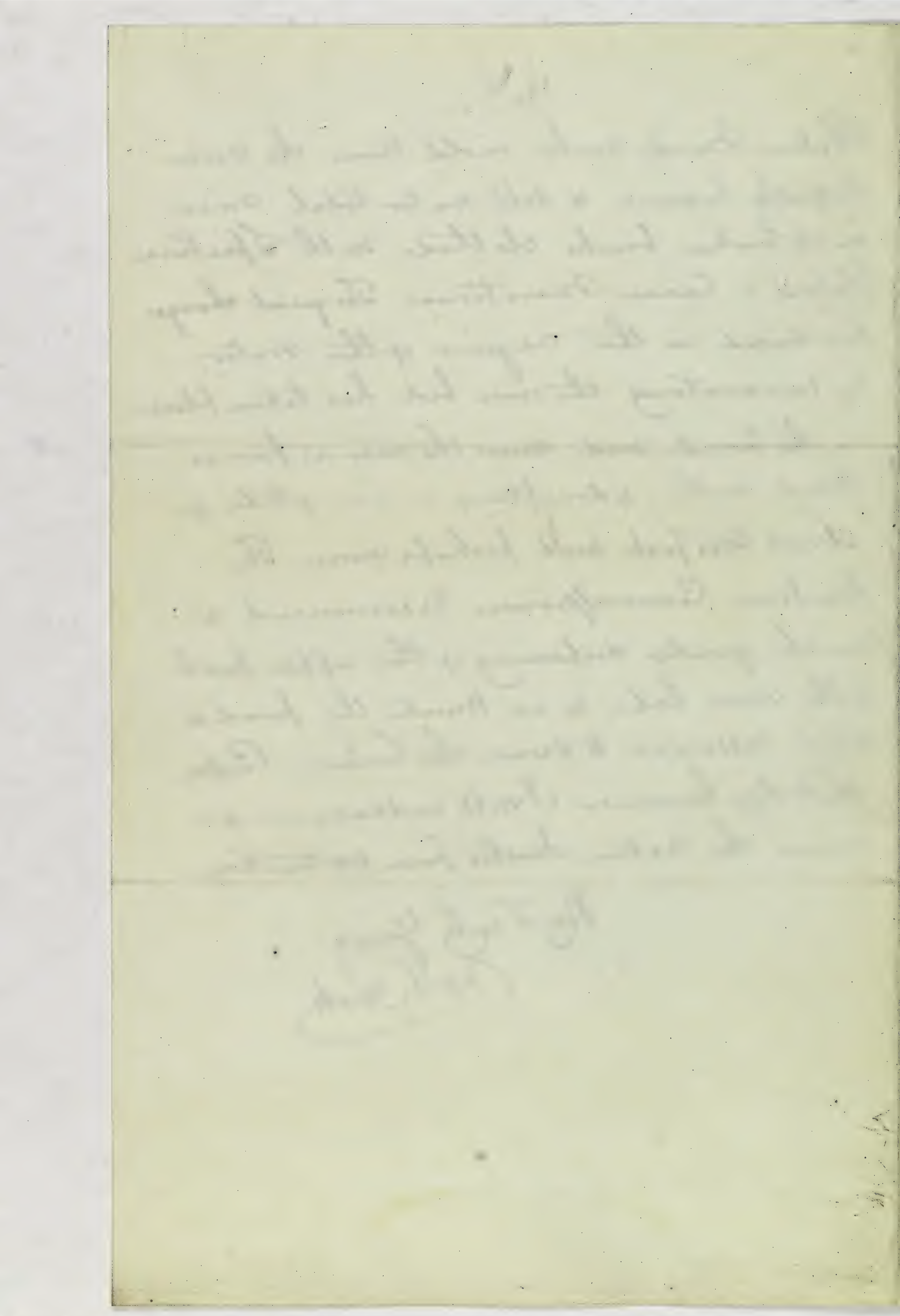

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New Nov 9th

Mass Nov 22

Boston 5 Nov. 1866

Dear Sir

I inclose some specimens of Isoetes from Echo Lake Franconia, and Lake Winnipisiogee, which may perhaps be new to your working at

Very Truly Yours.

Dr Geo Engelmann

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Rec Dec 3
Ans Dec 14

Dr George Engelmann

Boston 28 Nov 1866

Dear Sir

I received yesterday your favour of the 22d inst and desire heartfelt my warmest thanks for the specimens of Isoetes. and for the Aster & Solidagos you have so kindly sent me. I shall value them very highly. You are very good also to interest the trouble I have given you in asking for Aster Anomalus as a chance of getting a pleasant ramble. I will divide the Aster & Solidagos with Gray.

Darwin writes me about the Winnipisiogee Isoetes. of which I sent him living plants. ~~that~~ he thinks will grow again

"La culture de cette forme va certainement lever les dernières doutes qui peuvent subsister encore au sujet de cette plante, bien que toutes les probabilités soient déjà entièrement qu'il faudra n'y voir que l'I. Echinospora d'Europe. C'est bien ce qui me paraît"

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GEORGE ENGELMANN

"dans le principe lorque je ~~l'~~étudiai l'échantillon
de l'herbier de Berlin. que Mr A Braun
m'avoit envoyé en communication. Cependant
malgré l'identité presque complète des spores (l'organe
caractéristique par excellence) il me répugnait
d'admettre qu'une plante Américaine fût
absolument identique à une espèce que j'avais
d'abord découverte dans un lac d'Auvergne. C'est
pour cela que je désirais tant cultiver la forme
du N. Winnipisiogee, afin de m'assurer si la culture
ne mettrait pas en lumière quelques caractères
importants, inaperçus à l'état sec. Or, nous avons
maintenant une aire très étendue pour
l'échinospora, qu'on peut suivre, à travers l'Europe,
depuis la Lombardie et les Pyrenées, jusqu'a l'Islande
et au Groenland. Il n'est donc pas impossible
qu'il soit descendu sur le continent américain
et que vous le retrouviez dans vos lacs" I had
supposed that my Specimens from Lake Winnipisiogee
& Echo were of one Species, but you make the Echo
lake plant L. Braunii & Mr Dunca the other L. Echinospora
I believe you gathered L. Ripania in L. Winnipisiogee
& my Echo Lake Plant I found about the middle
of the Inchem halfopche Lake, in from 2 to 4 feet

L GARDEN
N PAPERS

of water. I remember that the depth was so great I could not reach the plants on the very bottom.

I plainly distinguish the spores of I. Tuckermanii from all the others - and also those of I. Engelmannii - with a Coddington lens, but not those of I. Braunii from I. Muricata. I have not been able to see that the papillae on the latter are sometimes "bifurquées" as Durieu says. But I have an excellent English Microscope, which has been packed away for some years, and I will bring it to bear down upon my plants, and see what I can discover.

I was in Spot Pond about a fortnight ago, and found there as in Mystic Pond Isoetes in bloom. The plants had lost all macro & micro spore bearing leaves. Those remaining were quite long and very slender. Out of all that I gathered, I only scared one leaf that had a few ripe macrospores. I saved three or four plants, and if you wish I will send you some of them with the spore bearing leaf. The spores indicate either Braunii or Muricata.

I told you in my last letter, that I could not find any specimens of Isoetes that I gathered last year in Horn Pond. At that time I supposed all my plants were Muricata, & I was careless about preserving them. I find by a memo that I sent Canby some specimens of Isoetes from the South end of Horn Pond. These are the plants I could not find in my herbarium and must be Tuckermanii. The other day I found in a drawer three parcels of Isoetes, that I had wrapped up in paper and left there just as they were gathered, & had afterwards forgotten. One marked Woburn Brook is Muricata. Another from the middle of the West side of Horn Pond, where the other

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day I could not get any specimens for you. has muricata spores — & the third from the South end is clearly I. Fuckermanni and of the same lot as Cambys. —

I have sent Darien some living plants of I. Fuckermanni I found that the first collection I made this season in Mystic Pond and sent prothich I gave Dr Gray to be forwarded to Mr. Braun. had remained in the Pond at the Botanic Garden. When I made my second collection I ~~took~~ threw away. and kept each of the ~~xx~~ two collections separately. and added some muricata from the Wilson Brook — to Mr Brown at Berlin.

Next year I will endeavour through the season to collect good specimens of I Braunii Fuckermanni & muricata and of Engelmanni if I can get at it. If our mild weather continues I will try and find out what the this season
Spades in Fresh Pond is. I have often seen it, when looking for Potamogeton Praelongus. This Potamogeton I have never found & come with 3 feet of the surface of the water, and have never found flower or fruit. P. Robbinsii is also extremely abundant in Fresh Pond, but I have never detected it in flower or fruit —

Renewing (2) thanks for the plants you have sent me.

I am always Yours truly

W W Bolt

Rec'd Dec 6
Ans Dec 14

Dr George Engelmann

Boston 3d Dec 1866

Dear Sir

Allow me again to thank
you for the roots & seeds you have
had the kindness to send me & received
them in excellent condition on the 1st
and the same day I had them planted
after dividing with Dr Gray
I also sent two specimens of Isoetes from
~~Utah~~ Pond. and the pine bearing bale
of leaf from the same locality. I think,
you will find a few Isoeti engaged in
the roots of the larger specimens

Very Truly Yours

J. C. Watt

Further remarks locality of Isoetes Packeri.

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Rec'd March 5th
Ans — 14

Dr George Engelmann

St Boston March 1867

My Dear Sir

I have lately looking
at the fruit of all the Specimens of
Isoetes that I have, and among those
from the Woburn brook. I find one
that in the spore differs from all that
I know. I send it to you by mail,
with the original ticket showing that
it was gathered Nov 16. 1862. the specific
name "Immicola" was added afterwards
when I learned that Durieu had so
named the Woburn Isoetes. It is the
only Specimen I have. If I gathered any
others at the time, I must have distributed

them and probably under the name of
I. Muricata. The Woburn brook is
certainly not more than two miles in
length, and only in a short part of it
have I found Isoetes, and that part
I have searched with some care for
half a dozen years. Is it not singular
that among all the plants that I have
taken with it, there should be this
solitary one, so different from the rest?
The spores of I. Muricata and I. Braunii
are very much alike. As far as I have
yet been able to judge. I should say that
the spore is largest in Muricata. I do not
think that the spinules are longest in
Braunii, as a general rule. Those of Braunii
appear to me more often sharp pointed, while
those of Muricata are more truncate and often

bidentate with divergent teeth - which character is rare in Brassica.

You were so kind as to send me some specimens of foreign & native species. I should be very glad to receive them, and they would be very useful to me in studying the species of this neighbourhood

I am Dear Sir

Yours truly

W. Booth

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Rec'd March 25th
Ans same day
& April 1st

Boston Mar 21 1867

My Dear Sir

I received your welcome
letter of the 14th yesterday.
Some days after I sent you the single
Specimen of Sorbus gathered 16. Nov 1862.
I happened to be at the Botanic
Garden Cambridge, and as I was
leaving Dr Gray told me that there was
a parcel there for me. It was your
package of Sorbus. How long it had been
there I do not know. I did not at once
acknowledge its receipt, waiting to do
till I had a reply from my last letter, for
which delay you will excuse me. It will
be very valuable to me, and I am much
indebted to you for it. At present I can only
examine the Microsphaeras of the different
species, having given lately all the spare time
I could employ, to looking over Carices for
Dr Gray. Carey did his work very well in

arranging the genus for Gays Manual and beyond ~~additions~~ species have added. I do not think much alteration is expedient.

I was surprised that you did not admit my Isoetes of Nov 16. 1862 to the dignity of a species. for it appeared to me that there is a greater difference between the markings of its macrospores and those of I Engelmanni, than there is between those of I Eclinospora, I. Braunii, & I. Muricata. I do not remember that I have ever noticed the markings of a single macrospore of I Engelmanni like those of the one in question.

Your determination is however of interest in another point. I believe that I have never found I. Engelmanni except in the brook that flows into the Bay or rather S. W. part of Mystic Pond.

But Dunca in the Annals describing I. Muricata from the specimens I sent Gay, says among them there was a single plant of I Engelmanni. All these specimens were from the Woburn Brook, and at the time I sent them away I had never, as I believe found I Engelmanni Again. Last November I sent to Dr. Braun living plants of I. Tuckermanni & I Braunii from Mystic Pond, and as I thought at the time and recorded I. Muricata from the Woburn Brook. It writes to me that my plants are I. Tuckermanni & Braunii & I. Engelmanni. If I did not blunder and in a hopeless state of muddle headedness send him the plant from the brook flowing into Mystic Pond and

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label it I. Muricata. then you, Dunce & Brown agree that I. Engelmanni inhabits the Woburn Brook.

I find it difficult to assent to this. At the time I sent the plants to Prof Brown I had gathered Isoetes in both brooks, and the vice-versing of the plants through damaging my Sanity is impossible. There is no confounding the Macrospores of I. Engelmanni with those of any other species known here, and I have examined under the microscope many Specimens I have from the Woburn Brook, and found them all alike and certainly not I. Engelmanni. Prof Brown asked me to send him dried Specimens of Isoetes. Last month I sent him Specimens from all the localities I know - and especially I Muricata from the Woburn Brook, the Abbagina R, the shallow pond in Woburn. L. Winnipisiogee & Echo Lake. I have not heard from him since, but it is evident that he had received my dried plants when he sent you his arrangement of species. In his view is I. Echinospora found in this County.

The plant from the shallow pond in Woburn, differs from Muricata in its very straight leaves, its place of growth, a pool on the top any Stream flowing into wood pit and shrinking greatly in summer, rather than a pond, and in the Stomata of the leaves.

I. Muricata is found only in the Streams flowing into top of Horn Pond, and always immersed, and I believe in the Pond itself. I think I found it about the middle of the Westside, and sent the Specimens to Canby. The season was very dry and the pond had retreated

and left some specimens with prater. Is it not worth
while for you to ask Canby to send you those specimens
as they may exhibit some trace of stomata. The labels
must show the time & place of gathering. It will be a long
time before I can send you any specimens from the same
source, and most probably they will be under water,
on referring to Brunns letter done, I see that he
arranged his species on specimens sent him by you
and that when he wrote to you he had probably
not received my dried collection.

Dr Gray gave me your paper on Isoetes to
read, which I did with great interest, and as
far as my knowledge goes, would indorse as
a very thorough and complete description of the
Genus & and our species

Very Truly Yours

W. Boott

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Rec'd April 15
Ans'd July 21

1 Boston Apr 10 1867

Dear Sir

I am glad to learn
by your letter of the 7th
which I have just received
that you have received the
Woburn Insects from Mr Canby.
The one from the Sandy bottom
of a bog perhaps 2 miles from
the locality at Woburn brook,
was gathered at about the middle
of the West side of Horn Pond,
and owing to the extraordinary
drought of the autumn some of

the plants these put/ water.
The other from the end of the pond
in stony ground is the locality
from which you detected S.
[illegible] var a version of
the plants Southyn - Hough &
below J B var also found there

I will not fail to observe and make
Collections of the Forets of this
Neighbourhood during the season
I shall be away from home for a
fortnight in May, and for about
the same time in the latter June.
With that exception I shall not
be absent for more than a few days

Yours truly Yours
W W Bootle

Dr George Engelmann.

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Rec'd July 15
Ans July 21

Dr George Engelmann

Boston July 12. 1867

Dear Sir

I am in process of making
a collection of Isoetes for you, and
shall continue it into September.
In one of your letters, you held out
the expectation that I might have
the pleasure of seeing you here in
August. I hope that you will be
able to make your visit here, and
I will gladly introduce you to the
Isoetes that you are making known
to the world.
I gathered yesterday specimens from
four localities in Hopkinton. I have

been twice at the little round pond
in the bottom, the first visit about
a month ago and the second on
the 30th June. At the first visit I could
not find a single Isoetes - and only
two at the second - growing under
water but having the bright green
straight leaves which Engelmann
has remarked on it.

Gray's new edition of his Manual will
come out too late for use in the field
this season. He has sent me two or
three sets of the proofs of the part
relating to Carex; but has none by
me but those containing your
arrangement of Juncus. I have you
a spare copy that you can lend

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me. I should be very glad to get
it before the publication of the
whole book

I am Dear Sir

Always Sincerely Yours

A. Gray

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Rec'd Nov 18th
Ans Nov 22 29
Dr George Engelmann

Boston Nov 15 1841

Dear Sir

I yesterday had the
pleasure of receiving your letter of
the 9th. The day before I wrote you
and sent you my collection of
Asters made this season, and
some very indifferent Specimens of
the new Najas.

I was writing you a letter. When you
last wrote me you meant to come
here in a short time. In the expectation
of soon having the pleasure of seeing
you I delayed writing, and then let
time slip by, and waited till I could
send you my harvest of Asters.
The plants you kindly sent me last
year have done very well. Aster

Allium fotiens is yet in flower. The Allium alone, probably from an underground soil has dwindled away.

If I remember rightly, you have never asked me about Vitis. I have only flowering Specimens of V. Vulpina. Of V. Aestivalis & V. Cordifolia I have good fruit. These are all that I have, and are at your Service if you can by [illegible] them

My Dear Gray.

Yours Truly

C. C. Parry

You know Torrey describes Scirpus Lenticularis as "throughout our Western borders". If find a Scirpus with two cleft style and only 4 bristles growing in the neighbourhood, which I take to be S. Lenticularis. It is also found about the White Mts. I see it is a much earlier than S. Sylvaticus, Hudson in

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other receipts at Bears in all Army Veteran Name

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W. Boott

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ENGELMANN HERBARIUM
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Dr George Engelmann

Rec'd Dec 2d
Ans Dec 6

Boston Sept 1867

Dear Sir

I am glad to learn by your letter of the 22d that my package of Isoetes has reached you in good order.

I noticed the thick stiff leaves of the plant I collected Aug 20 on the South side of Fresh Pond, and not long after in examining it found it to be I. Lacustris var. I suppose the Macrosperma of Durieu. The macrospores of I. Lacustris from submerged are not larger than those of I. Riparia from Canby Fair Haven Pond plant was not abundant. The mud was high Aug 20. I was in a skiff but that I could not reach

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still, while having no other means I had to plunge my arm its whole length to seize a plant. When I was afterwards at Key West & Tortugas I spent much time at other points of the keys but that I did not get again to the locality as I meant to do. I have deserved only two specimens in the good fruit but both broken leaves.

On my homeward trip I find a much more interesting plant, and I think a new species among the specimens I gathered at Arlington Beach at Station No 6. Oct 23d. To my surprise I find that all the others gathered there that I have kept are C. Engelmannii, and I have only a single specimen, and a poor one except in the fruit. The

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Anaerospires are smaller than any that I know except S. Rudenotoda. They are very closely covered with thick edged curved & twisted and anastomosing ridges. The ridges are more continuous than in Lacustris and Riparia and do not run up into beaks as in those species. So it is.

I have sent you by Echols this morning a package containing a wafer of fruit of this Cordifolia, or rather S. Riparia of these be two species — Specimens of Scirpus Sylvaticus & what I have called S. Lenticularis. If it does not belong to that species, the bifid style & bristles, & the much earlier flowering are enough to

in title it D. tandyi by itself. I send you
the only Medford Specimen I have,
as at the time I gathered it I supposed
it D. the the more common S. sylvaticus.
Next season I will make a good
Collection of it. At no time I think
does S. Sylvaticus shed its fruit so profusely
and this may much later I have a
Specimen of S. Lenticularis gathered seven
years ago at Billerica by Lake P.
I am sorry that I cannot answer your
questions about D. Cordifolia, as I have never
paid any attention to the genus.
I have duplicates of most introduced
the ~~varieties~~ species I have described, and
any more I will be able to understand
any species you may make by my
labels. I have examined Specimens of
each days Collection, but not yet every
Specimen, so that I have yet a chance
of finding another Specimen of what
I take to be a new Species. Very truly Yours
A. Gray

Rec April 5th

Boston Apr 3 1882

Dear Dr Engelmann

I received your kind letter on the 1st, and the Dimorphotheca on the 3rd. Isoetes this morning. I am very much obliged to you for them. I am very glad that I was able to furnish some specimens to you, and if I desired any reward for such small service, I am amply repaid by your paper which I have read once and shall study. I owe you much for clearing up my puzzles in Juncus. and for your paper on ~~Juncus~~ Quercus. and wish that I could do such thorough work. Some few seasons ago I promised to send you young branches of oaks. Unluckily I was taken ill shortly

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afterwards and could not move about freely

Yours faithfully
William Booth

Dr George Engelmann

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